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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,406	06/19/2001	Eiichi Okazaki	7378/71294	1315

22242 7590 05/21/2003

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CHICAGO, IL 60603-3406

EXAMINER
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MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/883,406

Applicant(s)

OKAZAKI ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. / 2b) ☒ This action is non-final. /
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-15 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 20, 21, 23, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 10-15, 22 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

#### *Response to Amendment*

1. In response to the Amendment received on March 10, 2003, the examiner has carefully considered the amendments. The examiner acknowledges the amendment of claims 20, 22, and 24. The claim rejection under 35 U.S.C. § 112, 2nd paragraph for claims 20, 22, and 24 have been overcome by the amendment and has hereby been withdrawn for consideration.

#### *Allowable Subject Matter*

2. The indicated allowability of claims 1-3, 5, 20-21, 23, and 25 is withdrawn in view of the newly discovered reference(s) to Blum et al (5,223,582). Rejections based on the newly cited reference(s) follow.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 20-21, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Blum et al (5,223,582).

Blum et al teaches polymers capable of oxidative crosslinking. Said polymers are useable as binders in coating and/or sealing compositions for plastics, wood, glass, metal, paper, and ceramics. Said polymers are characterized in that they contain 10 to 80 wt% of structural units corresponding to formulas (I) and/or (Ia), wherein R2 corresponds to saturated aliphatic and/or aromatic hydrocarbon radicals which may optionally contain oxygen and/or nitrogen as hetero atoms in the form of ether, ester, keto, urethane, urea, and/or amide groups, provided that R2 contains at least 2.0 wt% of aliphatically unsaturated double bonds. Said polymer is a copolymer, which has the molecular weight of 4,500 to 100,000, and are prepared by copolymerization of olefinically unsaturated intramolecular dicarboxylic anhydrides with other olefinically unsaturated monomers found in column 3, lines 5-50. These copolymers appear to anticipate claim 1 because they comprise maleimido groups and ethylenically unsaturated groups and has a molecular weight above 1,000. According to formulas (I) and (Ia) the maleimido group is bonded to said ethylenically unsaturated group via an ester bond and vice versa (ethylenically unsaturated group is bonded via an ester group)—anticipating claims 2-3. Per column 3, lines 5-50 said copolymerizable monomers can have acrylic or methacrylic unsaturated groups—anticipating claim 5. Said coating and/or sealing compositions comprising said copolymer according to Blum et al anticipates claim 26.

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Although Blum et al does not teach crosslinking by irradiation using a active energy beam, the polymers of Blum et al comprise groups that are inherently radiation crosslinkable, i.e. acrylic/methacrylic and maleimide groups—anticipating claim 20-21.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al (5,223,582). Blum et al is described in the above rejection. Blum et al does not expressly teach a method of coating an article comprising applying said polymer composition to an article and then irradiating the composition with an active energy ray nor does Blum et al expressly teach/suggest the same method for coating wood. However, Blum et al teaches a polymer binder composition for coating substrates, such as wood comprising a polymer having maleimido groups and ethylenically unsaturated groups with a molecular weight greater than 1,000. Said polymer as taught by Blum et al are inherently radiation curable/crosslinkable because of the acrylic/methacrylic groups and the maleimide group. Therefore, it would have been obvious for a skill artisan to coat an article, such as wood, with the binder composition as taught by Blum et al and cure with irradiation with an active energy source, such as ultraviolet radiation. The motivation would have been to obtain a cured coated article with a faster curing time than oxidation and/or thermal curing, while being produced from inexpensive raw materials and that satisfy practical requirement with regard to performance properties with the expectation of adequate success in the absence of arguments and/or evidence to the contrary.

***Response to Arguments***

7. Applicant's arguments, see paper number 12, filed March 10, 2003, with respect to the rejection(s) of claim(s) 20, 22, and 24 under the second paragraph of 35 USC 112 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Blum et al (5,223,582)—see above.

***Allowable Subject Matter***

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8. Claims 4, 6-7, 10-15, 22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the polymer described in claim 1 that further comprises a compound (B) other than (A) containing ethylenically unsaturated groups, such as methacryloyl or acryloyl groups, nor where (B) comprises two or more ethylenically unsaturated groups. Nor does the prior art teach a crosslinkable composition comprising the polymer (A) of claim 1 that is an aqueous composition, i.e. dissolved in or dispersed with an aqueous medium.

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

Sanza L McClendon

Examiner

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James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700

SMc

May 19, 2003